160,000 acre-feet of water is to be impounded in reservoirs for use on this project.

Water was first turned into the canals on this project during the season of 1909, and figures as to the acreage under cultivation are not yet available. Like the South Side Project, the original landholdings averaged about 120 acres, but the average present size of farms is not in excess of 80 acres.

The principal towns on the project are Jerome and Wendell, each having a population of between a thousand and fifteen hundred. Each of these towns has hotels costing from $60,000 to $70,000, electric lights, waterworks, and telephone service. They have railroad connection over the Idaho Southern Railroad with the Oregon Short Line at Gooding, a thriving town of 1,500 people just at the edge of the project, and the Oregon Short Line is now building an additional line of road through the tract extending from Bliss to Rupert. The towns of Bliss and Hagerman, with a population of 500 each, were already established before the building of the irrigation works. The company constructing this project has a completely equipped agricultural department in charge of experts whose business it is to study the local conditions and advise the farmers as to the best methods to be used in the cultivation of crops. Observations as to weather conditions are also taken in connection with this department.

SALMON RIVER PROJECT.

The main feature of this project is the great Salmon River Dam, a concrete masonry structure rising to a height of 220 feet above the rock foundation upon which it stands. Its upstream face is curved in plan to a radius of 225 feet, thus forming a horizontal arch with abutments in the solid rock sides of the canyon. It is so constructed that an ample factor of safety is obtained. The site is particularly adapted to this type of dam. A dike of especially hard lava crosses the canyon at this point. The Salmon Falls River, from which the water is taken, flows through a box canyon with lava sides. Above the dam there is a widening of this canyon so that the reservoir will have a superficial area of 3,500 acres when the water level in it is at the maximum flow line. The outlet from the reservoir is a concrete-lined tunnel having a sectional area of 110 square feet and a capacity of 1,250 cubic feet per second. The mouth of the tunnel is so located that 180,000 acre-feet of the waters impounded in the reservoir can be utilized when the reservoir is filled. The outlet tunnel turns immediately beyond the portal and extends approximately 1,300 feet parallel with the canyon. Beyond this tunnel is 2,242 feet of open canal that terminates in the second tunnel 2,258 feet long.

The main canal has a capacity of 1,250 cubic feet per second. The canals already constructed cover 100,000 acres of this project. Seventy per cent of the dam at this time is already constructed. Water was furnished for the use of settlers during the past season. Eighty thousand acres of the land have already been taken by settlers.

This most interesting work has been in charge of F. C. Horn, constructing engineer, and A. J. Wiley, consulting engineer, both of whom have heretofore been employed in similar capacities by the United States Reclamation Service.

TWIN FALLS OAKLEY PROJECT.

The construction of this project calls for the building of a dam across Goose Creek at a point about 3 miles above the town of Oakley. There is an unusually fine body of land in this locality, and the building of irrigation works to cover this tract has been under consideration by various persons at different times for the last 20 years.

The dam now under construction is of the earth type with a concrete core wall. Its total length along the top is a little over 1,100 feet. The dam has a total height at the highest point of 142 feet, being the highest dam of this type in this country. The canals in connection with this work will cover an area of 60,000 acres. With the exception of probably 5,000 acres, the land is already taken.

The plans for this project call for one of the most effective and up-to-date irrigation plants yet constructed in the State. The works are particularly designed to procure a high duty of water.

The general character of the soil on all of the projects named above is what is commonly known as volcanic ash, a particularly fertile and valuable soil especially suitable for alfalfa which when planted acts as a fertilizer and adds the necessary humus.

The water right on these projects to which the settler is entitled varies from one-hundredth to one-eightieth of a second-foot per acre, but this is a maximum only, the settler being entitled to so much water only as his crops require under a rotation system. An economical and efficient use of water is provided for. The duty of water varies with the nature of the crop and the character of the soil. An excellent crop of oats has been raised with one irrigation, but in a majority of years probably two irrigations would be required for grain crops. Alfalfa and other grass crops require more water. On most of the area included in these projects three crops of alfalfa are annually obtained. The Oakley Project has been found specially valuable for sugar beets. All of the tracts are suitable for general farming.

These projects are notable for speedy construction, rapid settlement, and quick and efficient reclamation.